UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,958	09/29/2003	Vincent K. Jones III	CISCO-8280	3801

21921 7590 03/28/2007

DOV ROSENFELD
5507 COLLEGE AVE
SUITE 2
OAKLAND, CA 94618

EXAMINER	
BOAKYE, ALEXANDER O	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/673,958	JONES ET AL.	
	Examiner	Art Unit	
	ALEXANDER BOAKYE	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09/29/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1).☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/29/03,04/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAIL ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As stated in the MPEP, "A process that merely manipulates an abstract idea or performs a purely mathematical algorithm is non-statutory, despite the fact that it might inherently have some usefulness. For the subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts". See MPEP 2106 IV B2 b (ii). Furthermore, "A claim is limited to a practical application when the method as claimed, produces a concrete, tangible, and useful results, ie., the method recites a step or act of producing something that is concrete, tangible, and useful". See MPEP 2106 IV B 2 b (ii).

CLAIM 16 :

Claim 16 as currently presented:

"Forming a received estimate of said multibit phase shift key symbol; obtaining a first angular difference between polar coordinates of said received estimate and polar coordinates of a nearest in angle ideal symbol having zero as a value for said particular bit; obtaining a second angular difference between polar coordinates of said received estimate and polar coordinates of a nearest in angle ideal symbol having one as a value for said particular bit; and forming a soft decision value for said particular bit based on said first angular difference and said second angular difference".

As currently presented, the first set of limitations within claim 16 call for forming a received estimate of the multibit phase shift key symbol. A first angular difference between polar coordinates of the received estimate and the polar coordinates of a nearest in angle ideal symbol having zero as a value for the particular bit is obtained. A second angular difference between polar coordinates of the received estimate and polar coordinates of a nearest in angle ideal symbol having one a value for the particular bit is obtained. And a soft decision value for the particular bit based on the first angular difference and the second angular difference is formed. The soft decision value is formed without performing any specific function.

Examining the claim as a whole demonstrates that, after forming a received estimate of the multibit phase shift key symbol to obtain a first angular difference between polar coordinates of the received estimate and polar coordinates of a nearest in angle ideal symbol having zero a value for the particular bit and second angular

difference between polar coordinates of the received estimate and polar coordinates of a nearest in angle ideal symbol having one as a value for the particular bit is obtained to form a soft decision value for the particular bit based on the first angular difference and the second angular difference. The claim as a whole is directed to nothing more that performing a purely mathematical algorithm without any practical limitations.

CLAIM 19:

Claim 19 as currently presented:

"Forming a received estimate of said multibit phase shift key symbol; and forming a soft decision value for said particular bit based on angular differences between said received estimate and ideal values for said multibit phase shift key symbol".

As currently presented, the first set of limitations within claim 19 call for forming a received estimate of the multibit phase shift key symbol. And a soft decision value for the particular bit based on angular differences between the received estimate and ideal values for the multibit phase shift key symbol is formed. The soft decision value is formed without performing any specific function.

Examining the claim as a whole demonstrates that, after a received estimate of the multibit phase shift key symbol and angular differences between the received estimated and ideal values for the multibit phase shift key symbol, a soft decision value is formed without performing any specific function. The claim as a whole is directed to nothing more than performing a purely mathematical algorithm without any practical limitations.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Matsunaga et al. (US Patent # 7,103,107) discloses Demodulator, Receiver, and Communication System.

Gerlach et al. (US Patent # 6,499,128) discloses Iterated Soft-Decision Decoding Of Blocks Codes.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Boakye whose telephone number is (571) 272-3183. The examiner can normally be reached on M-F from 8:30am to 6:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham, can be reached on (571) 272-3179. The Fax number is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or PUBLIC PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the **Electronic Business Center (EBC)** numbers at 866-217-9197 and 703-305-3028.

Alexander Boakye

Patent Examiner

3/22/07